



## Supporting Online Material for

### **Mitigating Local Causes of Ocean Acidification with Existing Laws**

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#### **This PDF file includes**

Table S1

References

**Table S1.** Examples of federal and state laws and funding opportunities that could be used to protect coastal zones from local causes of ocean acidification. Note that Native American tribes may be treated as states under federal legislation, such as is the case for the CWA [see 33 U.S.C. § 1377(a), (e)], CAA [selected sections; see 63 *Fed. Reg.* 7271, (12 February 1998)], and FIFRA (see 7 U.S.C. § 136u). See notes below table.

	Causes of ocean acidification	Federal & state authority & grant opportunities	Local authority & grant opportunities
Land use–based causes of ocean acidification	Point-source pollution	CWA §§301, 303(d), 319, 401, 402, 403, 404 RCRA CERCLA	NPDES permits, CWA §303(d) listing & TMDLs, State CWAs, local publicly owned treatment works operations & management, coastal management programs, comprehensive planning & zoning (e.g., conditional use permits) state RCRAs & CERCLAs
	Non–point source runoff pollution	CWA §§ 303(d), 312, 319 FIFRA	CWA §303(d) listing & TMDLs, comprehensive planning & zoning, (e.g., integrated pest management)
	Erosion	CZMA, NEPA, state infrastructure planning & maintenance, flood control projects, NFMA, CWA §106	Coastal management programs, comprehensive planning & zoning (e.g., development standards, grading permits)
	Emissions	CAA §(nonattainment), (federal transportation grants), (federal restoration grants), regional initiatives (e.g., Western Climate Initiative, Midwest GHG Reduction Accord, or regional GHG initiative)	Coastal management programs (e.g., restoration projects), comprehensive planning & zoning (e.g., California’s SB 375)
Other anthropogenic causes	Marine shipping, ground and air transportation	CAA, regional initiatives (e.g., Western Climate Initiative, Midwest GHG Reduction Accord, or regional GHG initiative)	CAA state implementation plans, clean ports programs, coastal management programs, airport authorities (e.g., best management practices), comprehensive planning & zoning (e.g., infrastructure planning)
<u>Foundational regulatory authority &amp; opportunities</u> CWA §§ 104, 205, 303, 304, 320, 604 CWPPRA NEPA & State NEPAs ESA			

GHG, greenhouse gas; NPDES (National Pollutant Discharge Elimination System), EPA Office of Wastewater Management; TMDL (Total Maximum Daily Load) a calculation of the maximum amount of a pollutant that a water body can receive and still safely meet water quality standards.

**CWA** [Clean Water Act 33 U.S. Code (U.S.C.) § 1251 et seq. 1972] includes provisions to restore and maintain chemical physical and biological integrity of state waters, provide water quality for the protection and propagation of fish, shellfish and wildlife and for recreation in and on the water, and consider the use and value of state waters for public water supplies, propagation of fish and wildlife, recreation, agricultural and industrial purposes and navigation. Different sections of the CWA include:

- CWA §104 Wetlands development grants
- CWA §106 Grants for pollution control programs
- CWA §205 Water quality planning grants
- CWA §301 Variances from effluent limitations
- CWA §303 Water quality standards and implementation plans; includes TMDL provision.
- CWA §304 Listing of impaired waters
- CWA §312 Marine Sanitation Devices
- CWA §319 Nonpoint Source Program (NPS)
- CWA §320 National Estuary Program (NEP)
- CWA §401 State Water Quality Certification
- CWA §402 National Pollutant Discharge Elimination System (NPDES)
- CWA §403 Ocean Discharge Program
- CWA §404 Permits for Dredged and Fill Material
- CWA §604 Water Quality Planning Grants

**CAA** (Clean Air Act 42 U.S.C. § 7401 et seq.)

**RCRA** [Resource Conservation and Recovery Act 40 Code of Federal Regulations (C.F.R.) § 261.40 et seq.] regulates many highly acidic substances.

**CERCLA** (Comprehensive Environmental Response, Compensation, and Liability Act 42 U.S.C. § 9601 et seq.) provides federal authority to respond to a release of substances that may endanger the environment.

**FIFRA** (Federal Insecticide, Fungicide, and Rodenticide Act 7 U.S.C. § 136 et seq.) regulates the sale or use of any federally registered pesticide.

**NFMA** (National Forest Management Act) governs land use planning and other management in National Forests.

**NEPA** (National Environmental Policy Act 42 U.S.C. § 4321 et seq.) requires any major federal action, which may include state or local actions that use federal funds, to account for the environmental impacts of that action and to consider alternatives to it.

**CZMA** (Coastal Zone Management Act 16 U.S.C. § 1451 et seq.) encourages states to preserve, protect, develop, restore or enhance valuable natural coastal resources as well as the fish and wildlife using those habitats.

**ESA** (Endangered Species Act 16 USC §1531 et seq.) provides a program for conserving threatened and endangered plants and animals (including acroporid corals) and their habitats.

**CWPPRA** (Coastal Wetlands Planning, Protection and Restoration Act 16 U.S.C. 3951–3956) provides grants for coastal planning and protection.

**ESA** (Endangered Species Act 13 U.S.C. 35)